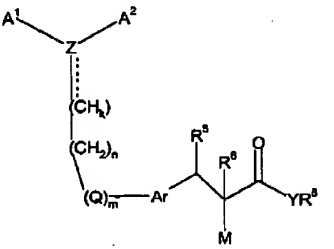
Attorney Docket No. 5697.200-US
Murray et al.
Serial No. 09/551,740 Filed April 18, 2000

CLAIM LISTING

1. **(Currently amended)** A compound of formula (I)



(I)

wherein ~~**wherein**~~ A^1 and A^2 are independently of each other a saturated, unsaturated or aromatic 5-6 membered cyclic ring system selected from the group consisting of cyclopentyl, cyclohexyl, phenyl, thienyl, furanyl, pyridinyl wherein said ring system is optionally substituted with one or more halogen, perhalomethyl, hydroxy, C_{1-6}-alkyl, (C_{3-6}-cycloalkyl)C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, aryl, aryloxy, arylalkyl, arylalkoxy, heteroaryl, heteroarylalkyl, heteroaryloxy, heteroarylalkoxy, acyl, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl-amino, C_{1-6}-dialkylamino, arylamino, arylalkylamino, aminoC_{1-6}-alkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, aryloxyC_{1-6}-alkyl, or arylalkoxyC_{1-6}-alkyl,

wherein heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl;

aryl is selected from the group consisting of phenyl and ~~**naphtyl**~~ **naphthyl**;

heteroaryloxy is a heteroaryl group linked to an oxygen atom, wherein said heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl;

heteroarylalkoxy is a heteroarylalkyl group linked to an oxygen atom, wherein said heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl

Z is C;

Q is O or S;

------ represents a single bond or a double bond;

Ar is arylene or heteroarylene, wherein arylene is a divalent aromatic ring, selected from the group consisting of phenylene and naphthylene; heteroarylene is a divalent heteroaryl group selected from the group consisting of furanyl, thienyl and pyridinyl;

R^5 is hydrogen;

R^6 is hydrogen;

M is OR^7, where R^7 is hydrogen, C_{1-12}-alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl, aryl, arylalkyl, C_{1-12}-alkoxyC_{1-12}-alkyl, acyl, heteroaryl, or heteroarylalkyl groups optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano or M is $COYR^8$;

R^8 is hydrogen, C_{1-12}alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl;

Y is oxygen;

k is an integer from 1 to 2, n and m are 1;

wherein heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl;

aryl is selected from the group consisting of phenyl and ~~naphtyl~~ **naphthyl**;

arylalkyl is selected from the group consisting of benzyl, phenethyl, 3-phenylpropyl, 1-naphtylmethyl and 2-(1-~~naphtyl~~ naphthyl)ethyl;

heteroaryloxy is a heteroaryl group linked to an oxygen atom, wherein said heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl;

heteroarylalkoxy is a heteroarylalkyl group linked to an oxygen atom, wherein said heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from the group consisting of furanyl, thiophenyl and pyridinyl;

or a salt thereof with a pharmaceutically acceptable acid or base, or any optical isomer or mixture of optical isomers, or any tautomeric forms.

2. (Cancelled)
3. (Cancelled)

4. (**Currently amended**) The compound of claim 1, wherein A^1 and A^2 are independently of each other optionally substituted with one or more halogen, C_{1-6}-alkyl, C_{1-6}-alkoxy , aryl or heteroaryl, wherein aryl is selected from the group consisting of phenyl and ~~naphtyl~~ naphthyl and heteroaryl is selected from the group consisting of .furanyl, thienyl and pyridinyl .

5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)

16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. (Cancelled)
21. (Cancelled)
22. (Cancelled)
23. (Cancelled)
24. (Cancelled)

25. **(Currently Amended)** The compound of claim 1, wherein M is OR^7, where R^7 is hydrogen, C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, aryl, arylalkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, C_{1-6}-alkoxycarbonyl, aryloxycarbonyl, C_{1-6}-alkylaminocarbonyl, arylaminocarbonyl, acyl, heteroaryl or heteroarylalkyl groups optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano,
wherein heteroaryl is selected from the group consisting of furanyl, **[[,]]** thienyl and pyridinyl;

aryl is selected from the group consisting of phenyl and ~~**naphtyl**~~ **naphthyl**;

arylalkyl is selected from the group consisting of benzyl, phenethyl, 3-phenylpropyl, 1-naphtylmethyl and 2-(1-~~**naphtyl**~~ **naphthyl**)ethyl;

heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from furanyl, thienyl and pyridinyl.

26. **(Currently Amended)** The compound of claim 1, wherein M is OR^7, where R^7 is hydrogen, C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, aryl, arylalkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, heteroaryl or heteroarylalkyl groups optionally substituted with one or more halogen or perhalomethyl,

wherein heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl;

aryl is selected from the group consisting of phenyl and ~~**naphtyl**~~ **naphthyl**;

arylalkyl is selected from the group consisting of benzyl, phenethyl, 3-phenylpropyl, 1-naphtylmethyl, 2-(1-~~naphtyl~~ naphthyl)ethyl;

heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from the group consisting of furanyl, thienyl and pyridinyl.

27. (Previously presented) The compound of claim 1, wherein M is OR^7, where R^7 is C_{1-6}-alkyl.

28. (Previously presented) The compound of claim 1, wherein M is OR^7, where R^7 is ethyl.

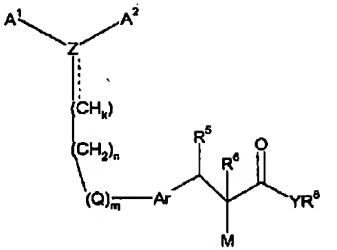
29. (Cancelled)
30. (Cancelled)

31. (Original) The compound of claim 1, wherein R^8 is hydrogen or C_{1-6}alkyl.

32. (Original) The compound of claim 1, wherein R^8 is hydrogen or ethyl.

33. (Cancelled)
34. (Cancelled)
35. (Cancelled)
36. (Cancelled)
37. (Cancelled)

38. (Previously presented) A compound of formula (I)



(I)

selected from the group consisting of:

2-Ethoxy-3-{4-[3-phenyl-3-(4-methylphenyl)-allyloxy]-phenyl}-propionic acid ethyl ester,

2-Ethoxy-3-{4-[3-phenyl-3-(4-methylphenyl)-allyloxy]-phenyl}-propionic acid,

3-{4-[3-(2-Chloro-phenyl)-3-phenyl-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

3-{4-[3-(2-Chloro-phenyl)-3-phenyl-allyloxy]-phenyl}-2-ethoxy-propionic acid,

3-{4-[3,3-Bis-(4-methoxy-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

3-{4-[3,3-Bis-(4-methoxy-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

3-{4-[3-Phenyl-3-(biphenyl-4-yl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

3-{4-[3-Phenyl-3-(biphenyl-4-yl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

2-Ethoxy-3-{4-[3-phenyl-3-(thiophen-2-yl)-allyloxy]-phenyl}-propionic acid ethyl ester,

2-Ethoxy-3-{4-[3-phenyl-3-(thiophen-2-yl)-allyloxy]-phenyl}-propionic acid,

2-Ethoxy-3-{4-[3-phenyl-3-(pyridin-2-yl)-allyloxy]-phenyl}-propionic acid ethyl ester,

2-Ethoxy-3-{4-[3-phenyl-3-(pyridin-2-yl)-allyloxy]-phenyl}-propionic acid,

3-[4-(3, 3-Diphenyl-propoxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

3-[4-(3,3-Diphenyl-propoxy)-phenyl]-2-ethoxy-propionic acid,

2-Ethoxy-3-{4-[3-phenyl-3-(4-methylphenyl)-propoxy]-phenyl}-propionic acid ethyl ester,

2-Ethoxy-3-{4-[3-phenyl-3-(4-methylphenyl)-propoxy]-phenyl}-propionic acid,

3-{4-[3-Phenyl-3-(biphenyl-4-yl)-propoxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

3-{4-[3-Phenyl-3-(biphenyl-4-yl)-propoxy]-phenyl}-2-ethoxy-propionic acid,

2-{4-[3,3-Bis-(4-methoxy-phenyl)-allyloxy]-benzyl}-malonic acid dimethyl ester,

(*E*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-furan-2-yl-phenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid ethyl ester,

(*E*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-furan-2-yl-phenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid,

(*E*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-phenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

(*E*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-phenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

(*E*, *Z*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-phenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

(*E*, *Z*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-phenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

3-{4-[3,3-Bis-(3-methyl-thiophen-2-yl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

3-{4-[3,3-Bis-(4-bromo-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

3-{4-[3,3-Bis-(4-bromo-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

2-Ethoxy-3-[4-(3-phenyl-3-pyridin-4-yl-allyloxy)-phenyl]-propionic acid ethyl ester,

2-Ethoxy-3-[4-(3-phenyl-3-pyridin-4-yl-allyloxy)-phenyl]-propionic acid,

(*E*, *Z*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-methoxyphenyl)-3-thiophen-2-yl-allyloxy]-phenyl}-propionic acid ethyl ester,

(*E*, *Z*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-methoxyphenyl)-3-thiophen-2-yl-allyloxy]-phenyl}-propionic acid,

(*E*, *Z*)-(2*S*)-2-Ethoxy-3-[4-(3-phenyl-3-p-tolyl-allyloxy)-phenyl]-propionic acid ethyl ester,

(*E*, *Z*)-(2*S*)-2-Ethoxy-3-[4-(3-phenyl-3-p-tolyl-allyloxy)-phenyl]-propionic acid,

(2*S*)-3-[4-(3,3-Diphenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

(2*S*)-3-[4-(3,3-Diphenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

(*Z*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-fluorophenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid ethyl ester,

(*Z*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-fluorophenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid,

(*E*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-fluorophenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid ethyl ester,

(*E*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-fluorophenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid,

(2*S*)-3-{4-[3,3-Bis-(4-methoxyphenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

(2*S*)-3-{4-[3,3-Bis-(4-methoxyphenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

(2*S*)-3-[4-(3,3-Di-p-tolyl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

(2*S*)-3-[4-(3,3-Di-p-tolyl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

(*Z*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-phenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

(*Z*)-(2*S*)-3-{4-[3-(4-Bromophenyl)-3-phenyl-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

(*Z*)-(2*S*)-3-{4-[3-(4-Bromophenyl)-3-phenyl-allyloxy]-phenyl}-2-ethoxy-propionic acid,

(2*S*)-3-[4-(3,3-Bis-biphenyl-4-yl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

(2*S*)-3-[4-(3,3-Bis-biphenyl-4-yl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

(2*S*)-3-{4-[3,3-Bis-(4-bromophenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

(2*S*)-3-{4-[3,3-Bis-(4-bromophenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

(*Z*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-furan-2-yl-phenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid ethyl ester,

(*Z*)-(2*S*)-2-Ethoxy-3-{4-[3-(4-furan-2-yl-phenyl)-3-phenyl-allyloxy]-phenyl}-propionic acid,

(*E*)-(2*S*)-3-{4-[3-(4-Bromophenyl)-3-phenyl-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

(*E*)-(2*S*)-3-{4-[3-(4-Bromophenyl)-3-phenyl-allyloxy]-phenyl}-2-ethoxy-propionic acid,

(2*S*)-3-{4-[3,3-Bis-(4-furan-2-yl-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester,

(2*S*)-3-{4-[3,3-Bis-(4-furan-2-yl-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

(*E*, *Z*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-p-tolyl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester,

(*E*, *Z*)-(2*S*)-3-[4-(3-Biphenyl-4-yl-3-p-tolyl-allyloxy)-phenyl]-2-ethoxy-propionic acid, or

(*E*, *Z*)-(2*R*)- 3-[4-(3-Biphenyl-4-yl-3-phenyl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester;

or a salt thereof with a pharmaceutically acceptable acid or base, or any optical isomer or mixture of optical isomers, or any tautomeric forms.

39. (Previously presented) A composition comprising, as an active ingredient, an effective amount of the compound of claim 1, together with a pharmaceutically acceptable carrier or diluent.

40. (Previously presented) The composition of claim 39 in unit dosage form, comprising from about 0.05 to about 100 mg of the compound.

41. (Previously presented) The composition of claim 39 in unit dosage form, comprising from about 0.1 to about 100 mg of the compound.

42. (Previously presented) The composition of claim 39 which is administered by the oral, nasal, transdermal, pulmonary, or parenteral route.

43. (Cancelled)
44. (Cancelled)
45. (Cancelled)
46. (Cancelled)
47. (Cancelled)
48. (Cancelled)
49. (Cancelled)
50. (Cancelled)

51. (Previously presented) The compound of claim 38 which is

(2*S*)-3-[4-(3,3-Bis-biphenyl-4-yl-allyloxy)-phenyl]-2-ethoxy-propionic acid ethyl ester, or

(2*S*)-3-[4-(3,3-Bis-biphenyl-4-yl-allyloxy)-phenyl]-2-ethoxy-propionic acid,

or a salt thereof with a pharmaceutically acceptable acid or base, or any optical isomer or mixture of optical isomers, or any tautomeric forms.

52. (Previously presented) The compound of claim 38 which is

(2S)-3-{4-[3,3-Bis-(4-bromophenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester, or

(2S)-3-{4-[3,3-Bis-(4-bromophenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

or a salt thereof with a pharmaceutically acceptable acid or base, or any optical isomer or mixture of optical isomers, or any tautomeric forms.

53. (Previously presented) The compound of claim 38 which is

(2S)-3-{4-[3,3-Bis-(4-furan-2-yl-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid ethyl ester, or

(2S)-3-{4-[3,3-Bis-(4-furan-2-yl-phenyl)-allyloxy]-phenyl}-2-ethoxy-propionic acid,

or a salt thereof with a pharmaceutically acceptable acid or base, or any optical isomer or mixture of optical isomers, or any tautomeric forms.

54. (Previously presented) The compound according to claim 1, wherein heteroarylalkoxy is a heteroarylalkyl linked to an oxygen atom having its free valence bond from the oxygen atom, said heteroarylalkyl selected from the group consisting of (2-furyl)methyl, (3-furyl)methyl, (2-thienyl)methyl, (3-thienyl)methyl and (2-pyridyl)methyl.